

Abstract

An image processing system includes a combined display-camera having an array of interspersed display elements and camera elements, arranged substantially in a common plane of a flat panel or other display. Each of at least a subset of the camera elements has one or more imaging angles associated therewith, with the one or more imaging angles being selected to provide a desired imaging operation for the combined display-camera. The imaging angles of the camera elements can be selected to provide an imaging operation which approximates that of a lens-based single-camera system, a pin-hole camera system or other type of system. Each of the camera elements may include multiple image sensors, such that different imaging angles can be set for the different image sensors of a given camera element, and different perspectives of a scene can be generated in the image processing system.